

## ABSTRACT OF THE DISCLOSURE

Methods and apparatus are described for improved yield and line width performance for liquid polymers and other materials. A method for minimizing precipitation of developing reactant by lowering a sudden change in pH includes:

5 developing at least a portion of a polymer layer on a substrate with an initial charge of a developer fluid; then rinsing the polymer with an additional charge of the developer fluid so as to controllably minimize a subsequent sudden change in pH; and then rinsing the polymer with a charge of another fluid. A method for achieving

10 a more uniform, quasi-equilibrium succession of states from the introduction of developer chemical to the wafer surface to its removal is also described. The method reduces process-induced defects and improves critical dimension (CD) control.

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